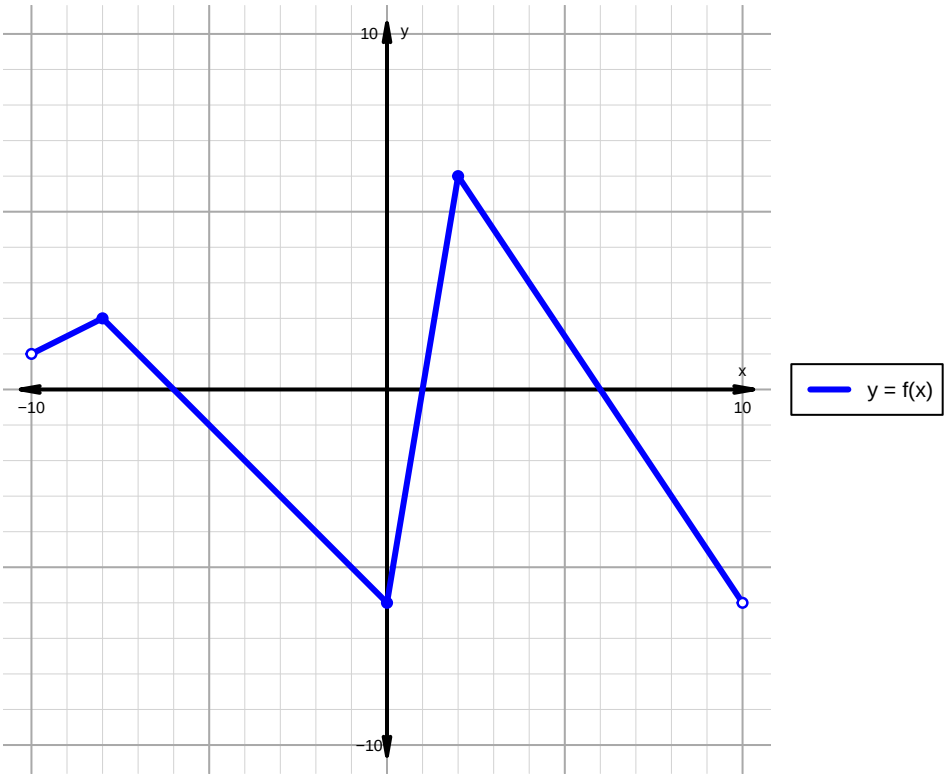
Name: Date:

Intervals, Transformations, and Slope Solution (version 147)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-6)\cup(1,6)$
Negative	$(-6,1)\cup(6,10)$
Increasing	$(-10,-8)\cup(0,2)$
Decreasing	$(-8,0)\cup(2,10)$
Domain	$(-10,10)$
Range	$(-6,6)$

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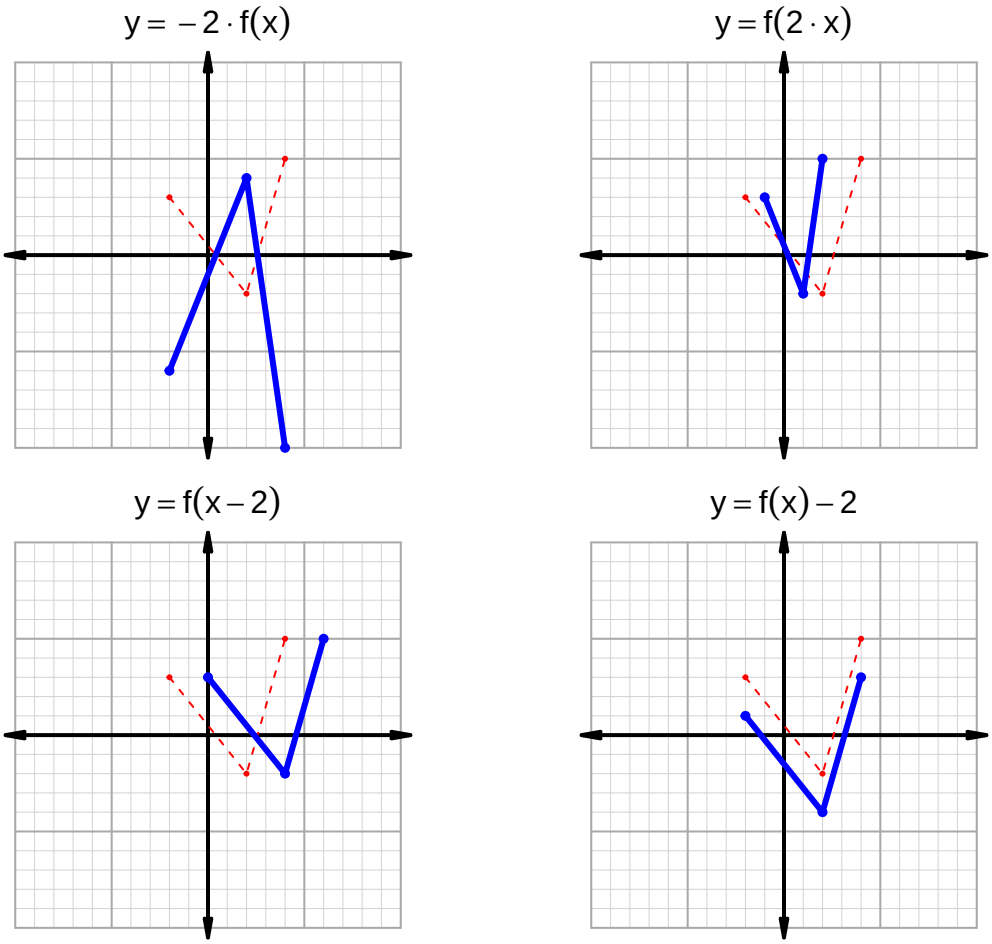
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 34$ and $x_2 = 97$. Express your answer as a reduced fraction.

x	$g(x)$
5	34
34	59
59	97
97	5

$\frac{f(97)-f(34)}{97-34} = \frac{5-59}{97-34} = \frac{-54}{63}$

The greatest common factor of -54 and 63 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-6}{7}$$